PSYCHIC NUMBING THROUGH PHOTOGRAPHS: DO WE RESPOND MORE TO ONE OR MANY PHOTOS OF CHILDREN IN NEED?

by

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This thesis took an in-depth analysis of the change in overall emotional affect after viewing images of refugee children. Using the previous research on Psychic Numbing and the effect of photographs on human emotions, we wanted to analyze to see if people experience more or less of an emotional shift when viewing 1, 4 or 10 photos of refugee children.

The term Psychic Numbing refers to the overall emotional numbness one feels toward large groups of people suffering as opposed to an individual. Individuals receive much more compassion as well as donations as proven time and time again in social psychology studies. This study hopes to determine if viewing 1 photo of a single refugee child receives more extreme emotional responses than 10 photos of individual refugee children.

Acknowledgements

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Introduction

Does one photo of a singular child in a refugee situation have a larger effect on the overall emotional state of the viewer than 10 separate photos of singular refugee children? To answer this question, this thesis first tells the story of a photo of a single child that broke through to a media-saturated audience's hearts and pocketbooks. It then continues with a review of past research done on the phenomena of Psychic Numbing and the Singularity effect. Next it goes into how those two phenomena manifest themselves in the viewing of images. Finally, it debriefs the core study of the thesis in which subjects were given either 1, 4 or 10 photos of a refugee child in sequence to see if there was a significant difference in their overall emotional affect between the conditions.

In September of 2015, a photo of a small boy named Aylan Kurdi lying lifeless on a Turkish beach appeared in media outlets worldwide. The image came from Syria. The Syrian civil war had been raging there for four years by September of 2015, and every day thousands of pictures of its victims and refugees were taken by the world's press and released to the public. On the one hand, the purpose was to inform. On the other, the photos revealed attempts to create awareness of the war in Syria to spread understanding of this humanitarian crisis and motivate actions to end it. Yet this one photo received much more measurable attention than the rest in terms of donations and Google searches (Slovic et. al, 2017). The photo of Aylan Kurdi lying lifeless, face down on a beach sparked an outpouring of public support and donations for organizations dedicated to helping the refugees in this crisis. See figure 1 for the image.

Figure 1 – Aylan Kurdi (Demir, 2015)

For reference, Aylan's photo was released by Nilufer Demir of the Dogan News Agency of Turkey on September 3rd, 2015. Donations towards aid organizations reached new heights after this photo was released by its photographer. See Figure 2.

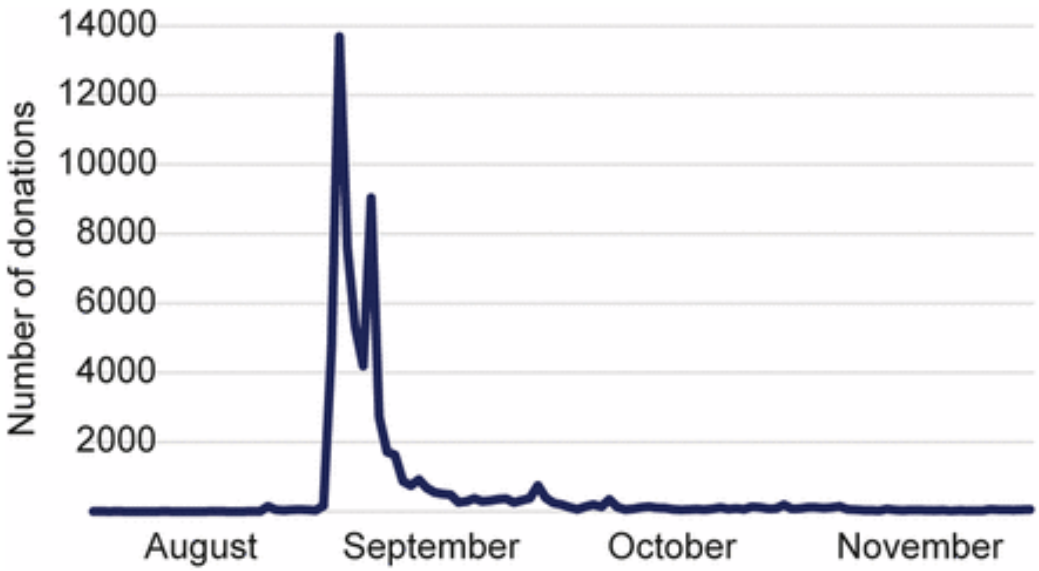

Figure 2 – Number of daily donations to a Swedish Red Cross campaign designated specifically for aiding Syrian refugees in Sweden (Slovic et. al, 2017).

In an ideal world, a story of a war-torn country with a struggling population would motivate every capable human to do what they could to help end the suffering of innocent civilians. The sad truth about reality is that humans are still learning how to empathize and feel compassion towards those outside of their specific 'in-group'. These stories about war-torn countries are never just about one person who has been affected by these issues, it often comes in scales of tens of thousands of people struggling in these conflicts.

But the human mind has difficulty empathizing with large groups of people. Humans relying on fast, intuitive, "gut feelings" cannot accurately appreciate the difference in scale between the death of one and the death of one thousand. This phenomenon is known as Psychic Numbing (Slovic, 2007). Psychic numbing can be described by an analogy about noise.

Imagine you are in a room that is silent. Then imagine that you hear a water droplet hit the floor from the ceiling. The noise is very noticeable because it is very easy to tell the difference between silence and a noise such as a drop of water hitting the ground. Then imagine that you are in the same room but this time there is a faucet spraying water onto the ground and it is very loud. If a single water droplet were to fall and hit the ground from the ceiling, do you think you could hear it? The answer is no. Now imagine instead of water droplets, it was statistics you hear about loss of human life. You will likely focus much more on one death than the many. This is called the singularity effect.

When you hear about one death, your mind can empathize with that specific person and their family and you can recognize how terrible of a tragedy it is to lose that life. But when you hear about the loss of 31 lives, compared to the loss of 30, you won't **feel** a difference between the two. This is psychic numbing (Slovic, 2007).

Another example of psychic numbing that can be applied more directly to mass atrocities and genocide is a poem written by Zbigniew Herbert called *Mr. Cogito Reads the Newspaper*. The poem has a protagonist named Mr. Cogito, and when he opens his morning newspaper, he sees multiple front-page stories. The first headline is a list of casualties in a distant war – 120 casualties to be exact. Another headline details a gruesome homicide with a single picture of the perpetrator. Mr. Cogito glosses indifferently over the story of the distant soldiers and plunges with 'delight into the description of everyday horror' in the story of the homicide. In explaining why the story of the soldiers was not as interesting to Mr. Cogito, the narrator explains that these casualties 'do not speak to the imagination' quite simply because there are 'too many of

them'. The sheer number of them is so great that it 'changes them into abstraction' (Herbert, 1995). Obviously, Mr. Cogito is an allusion to humanity and our inability to fully understand the compassion required to appreciate mass losses of life.

Going back to Syria, the Syrian civil war started in March of 2011 following protests by the general population against the totalitarian regime of Bashar al-Assad. By the time Aylan's photo appeared in the press in late 2015, 260,000 Syrians had already died in the civil war. The press had been covering the conflict very closely, and every day photos were published of civilians caught in the crossfire. Here are some of those images:

Figure 3 – Civilians fleeing from gunfighting in Aleppo (Al Halabi, 2015).

Figure 4 – Civilians in body bags after a nerve gas attack near Damascus (Khabieh, 2015).

Figure 5 – Children await medical care in Damascus (CNN, 2014).

From the moment that this conflict began, photos and statistics were being published to attempt to bring public attention to these mass atrocities. Yet for four years

the general public turned a blind eye to the Syrian people and did not feel obligated to help them. But in September of 2015 the photo of Aylan was published and within days citizens of the world were frantically searching for ways that they could help end this crisis as previously shown in the graph of donations to the Swedish Red Cross in figure 2.

Compassion fade is the phenomenon in which people tend to respond greatest to individual people in stories inciting compassion and affect change, and respond least to groups of people in stories. One study by Daniel Vjastfjall and colleagues titled *Compassion Fade: Affect and Charity Are Greatest for a Single Child in Need,* looked at whether specific numbers of people in messages for charitable organizations garner more or fewer donations than others. The study found that these messages were most effective at producing donations and compassion when there was only one person described in the story. The study suggested that having the ability to individually relate with someone and connect to their story leads the participants to feel more empathetic towards them, this is another manifestation of the singularity effect. It also concluded that when there are many people in a single photo the participants cannot fully empathize with all of them so, in turn, they feel less compassion towards them. Compassion fade shows that we relate strongest to individuals and weakest to groups.

In comparing the photo of Aylan on the beach with the photo of the bodies lined up in body bags, one would assume through simple arithmetic that 20 lifeless bodies would spur more compassion than that of a single child: more bodies, more compassion. That was not the case. Aylan's photo reached far more people than any other photo in the Syrian Refugee Crisis. Our experiment reaffirms how little the difference is between

viewing one and viewing many photos of atrocities; that repetition of photos does not increase compassion.

How does one photo of a child change the world? Should non-profit organizations use single photos in their advertisements or sequences of photos? These are all very great questions, ones that we plan on answering in this paper.

Psychic Numbing and the Singularity Effect help explain why when one is reading an article about a mass atrocity in another country, rarely does the story of millions of helpless people dying motivate someone to donate resources to help the victims. The reader likely feels some semblance of pity then continues to move on about their day. However, images such as the one of Aylan have had the power to cause people to stop what they are doing and immediately wonder how they can help (Jaiswal, 2016).

Another major contributing factor to Aylan's story and why it was so captivating is the medium in which it was delivered: an image. The phrases "a picture tells a thousand words" and "seeing is believing" are idioms that everyone has heard at some point in their lifetime. Research has found that humans respond more strongly to images than simple statistics (Slovic, 2016). These studies have analyzed the intersection between emotional responses and monetary donations and have found that images typically elicit much more pronounced reactions from the subjects. Images allow humans to see the world from another perspective, whereas statistics just appear as emotionless numbers on a page. A single photo of a child feels far more important than many statistical lives. A study performed by Paul Slovic and colleagues found that the image of Aylan Kurdi provoked far more concern about Syrian refugees as well as

donations than did the statistics of hundreds of thousands of deaths and other photos of the crisis that had been ongoing for four years.

There has been considerable research done on compassion and the limits of our own emotions when it comes to helping those in need. Studies conducted by Daniel Vjastfjall, Paul Slovic, and many others have looked directly as to why certain photos or stories garner much more public support than others.

Another article that ties directly into the reasoning as to why the subjects in the previous study could not relate as well to the larger groups is the article by Paul Slovic titled *Psychic Numbing and Genocide*. People will attend to stories about one particular person who has been the victim of a terrible tragedy that has affected thousands, and because of that one story there will be a massive outpouring of public support. In the face of straight statistics about genocides and mass atrocities, however, humans will feel less motivated to help the cause because of their inability to empathize with those numbers. Instead of valuing each life as equal and the loss of it a tragedy, the more loss of life there is, the more numb we become to the heartbreak. As stated earlier, however, images differ from statistics in their access to emotionality.

The photo of Aylan was able to access the singularity effect, overcoming psychic numbing, and demonstrating humanity's sensitivity to images more than statistics, as well as many other phenomena. In viewing Aylan's photo and the overwhelming response, one can ask whether this phenomenon can be applied to many individual photos of children in refugee environments?

This is what our study is hoping to discover. Normally, the photos of the Syrian conflict tended to have many other people in the photo, and over time one sees many photos of individuals and groups.

This study examines whether people's emotional state changes when seeing either 1 photo of a sad child, 4 photos, or 10 photos.

Methods

Participants were 350 Americans who volunteered to participate in an online survey for a small amount of money. The average age of the participants was 31, with 208 males and 141 females. 80% of the participants have either graduated from or attended some college. 47% racially identified as white, 27% as Asian, 8% African American, and 7% Hispanic. About one half self-identified as politically liberal and the other half identified as conservative. The subject pool was vetted by first having the participants indicate their political beliefs on a scale of 1 through 5 with 1 being very conservative and 5 being very liberal. Those who selected the moderate option, number 3 on the scale, were removed from consideration to analyze whether there was a difference in the responses between those who identified as liberal or conservative.

Once the participant fulfilled the criteria to continue the survey they were then asked to answer on a sliding scale their general temperament at the time of beginning the survey, with one end of the slider indicating that they feel ‘Bad’ and the other end feeling ‘Good’. The sliding scale ranged from 0-100, although the subjects did not see a numerical coefficient attached to the slider. This is shown in Figure 6.

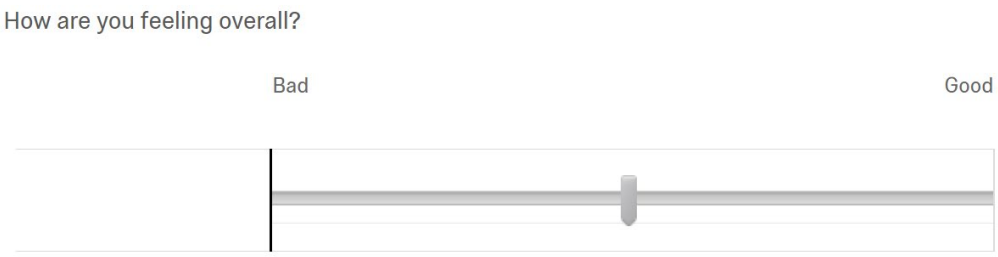

Figure 6 – Image of Emotional Affect Slider

After indicating their initial temperament, the subjects were randomly split into three conditions. The first condition saw one photo of a child randomly selected from a set of ten, with a small paragraph stating that the photographed child was an orphan due to the ongoing war in their country that killed their parents. The second condition saw four random photos of children in succession, taken from this same set of ten photos, and then recorded their emotional response to the final photo. The third condition saw 10 random photos of children and then recorded their emotional response to the final photo. The subjects were not told how many photos they were about to see. In every condition, the participants had to view each photo (1, 4, or 10) for 5 seconds. These photos are available in the appendix at the end of the report. The instructions for the images read:

> This photo was taken from the files of humanitarian agencies monitoring crisis agencies around the world. This child's parents recently died in the fighting in their region. This child is now a refugee and is looking for a new home. Please look at this photo and rate your feelings toward the image you see using the sliding scales below.

The purpose of this paragraph was to provide the participant with some context as to the background story of the children that they were viewing in the photographs.

After viewing the 1, 4, or 10 photos, the participants then reported through separate sliders how the last image made them feel overall (overall affect) and also how

compassionate, angry, sad, and hopeful the image made them feel. This was to achieve reliability between each condition so as to have the subjects all respond to one image with the only difference between conditions being the amount of priming they received through one, four, or ten photographs.

Results

The subjects' overall affect was influenced by viewing the sad faced photos of the children. Before viewing the photos, the average emotional state across all three conditions was at a 78 out of 100, and after viewing the average decreased to 33 out of 100. See Figure 7.

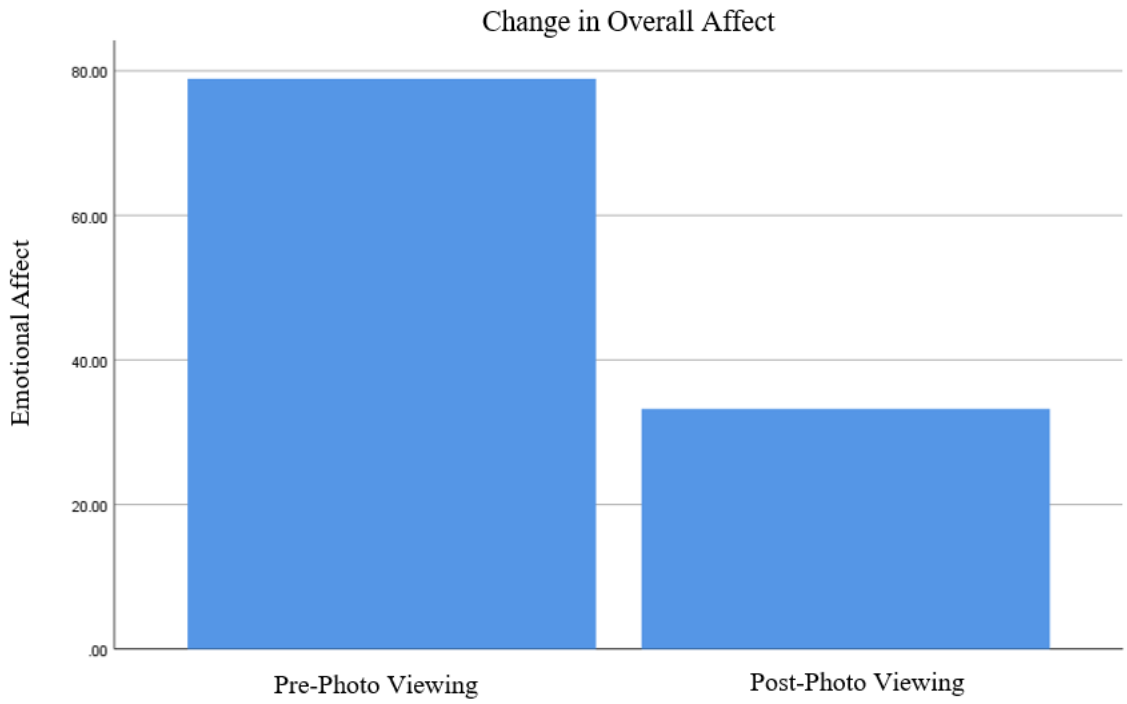

Figure 7 – Graph showing affect change

Although there was a statistically significant difference in affect before and after viewing the photos, there was no significant effect of the number of photos seen (1, 4, or 10) on the pre photo viewing, post-photo viewing and change in affect. Essentially, the affect was similar enough in all conditions that no significant difference was found between them. A one-way analysis of variance (ANOVA) between subjects was conducted to compare the change in overall affect with the number of pictures seen.

There was not a significant effect of number of pictures seen and change in affect at the $p < .05$ level for the three conditions [$F(2, 341) = .677$, $p = .509$]. There was also no effect of the political leaning of the participants and their emotional affect change.

For each participant, the change in affect before the viewing and after the viewing is going to be referred to as the 'difference score'. The higher the difference score, the more negative was the affect of the post-photo viewing compared to the pre-photo viewing. There were small differences in the difference score between the three conditions. The single photo condition's difference score was 42.8, the four photo condition was a shift of 46, and the ten photo condition had a change of 48.1. Although there was some variation in the difference scores between the conditions, there was no statistically significant effect. In addition to analyzing the difference score, the differences between the conditions in just their post-photo emotional affect showed no significant effect (see Table 1).

Survey Responses	Condition		
	1	4	10
Pre-Photo emotional Affect: How are you feeling overall? (0=bad to 100=Good)	78.3	77.7	80.5
Post Photo Emotional Affect: How does this image make you feel? (0=bad to 100=good)	36.0	31.3	32.4
Difference Score: Pre minus Post	42.8	46.0	48.1

Table 1 – Mean Affect Ratings

Discussion

Viewing the photos of the refugee children made almost all participants feel worse, which shows that the images did have an impact. Our aim in showing these pictures to the subjects was to see whether their overall emotional affect would change for the worse because of the children in the photos, and that effect was shown very clearly. After viewing the photos, the average participant's general affect was decreased (ie, became more negative) by 45 points on a scale of 1-100. The story of the child/children and the images resonated with the subjects.

Our expected effect was that the largest difference score would be in response to the single photo condition, and the smallest difference score would occur for the 10 photo condition because of previous research done on the compassion fade phenomenon in which people relate strongest to individuals and weakest to groups. This was not the case.

There were no significant differences in respondent's post-photo affect, or their overall difference score between any of the conditions. Based on the past research done on psychic numbing, we assumed that after having to view 10 separate photos of children for five seconds, a numbing effect would reduce the difference between pre and post photo affective feelings in response to the last photo compared to the single photo. This was not shown in this study. All three conditions were very similar in their post photo affect and their difference score.

With no prior knowledge of psychic numbing and the research surrounding it, one would assume that as number of victims increased, overall emotional affect shift would increase as well. But, as was predicted, there was no significant increase in

difference score as the number of images was increased. The subjects did not feel worse after viewing 10 photos compared to 1. This is consistent with prior research that shows that, as the number of victims increase in statistical reports of mass atrocities, there is no increase in compassion or donations. This time, however, the change of medium to photos from simple statistical reports did not cause this phenomenon to disappear.

This study did differ from past research on psychic numbing and specifically compassion fade as there was no major decrease in emotion as the number of victims increased. In past research, one of the observed effects of compassion fade as it pertains to psychic numbing is that people feel the largest emotional affect shift when there is one victim in need and feel the smallest shift when there are many victims. In our study there was no significant difference between the conditions, which means that there was no decrease in emotional affect shift as the number of victims increased. This was not the expected effect of our study; we hypothesized that there would be a significant decrease in emotional affect change as number of victims increased.

The fact that seeing one photo, four photos, and ten photos did not make any difference can mean many things. The most likely explanation as to why there was no difference between the conditions is that in every condition, the subjects simply rated their response to viewing the last photo they had seen while paying no mind to the previous photos. This would be possible because as they were recording their responses the only image they could see was the last single image that had been randomly generated directly above the questions. The reason why the previous photos may have

had no effect may be because the singularity effect discussed earlier was strong enough in the last photo to eliminate the differences between each condition.

The singularity effect reflects a focus much more on saving the individual life as opposed to saving a large number of lives. This is due to our ability to connect and empathize with a single human being much more than a large group of them. This is what could have happened in the viewing of the final photo in each condition. The desire to express compassion to the child that they were seeing in the photo was strong enough to overcome the impact of the photos they had seen previously.

Another possibility is that the design of the study reinforced the singularity effect. The participants were forced to look at 4 or 10 individual pictures for 5 seconds. Viewing the image of each child for 5 seconds could have made the participants individually relate to each image separately and experiencing a separate singularity effect for each child.

In order to further test the hypothesis that repeated exposure to photos would become numbing, there are some changes that could be made to the study. First, I would tell the subjects to respond to all of the images, not just the last image. I would also make it so the last photo was not visible when recording responses and allow the subjects to click through each photo at their own pace while timing them, and also have more than 10 photos in the 3rd condition. One would predict the subjects would click through faster as they proceeded through the set, most notably for 10 photos but especially more for a condition with 20 or 30 photos. We could analyze how long they spent on each photo as well to see at what point they began skimming over photos of children.

The change of having the subjects respond to the group of photos and not only the last photo might produce a greater difference between the three conditions and could allow the singularity effect of the final image to be mitigated. This change would treat the group of images as less of a priming mechanism for the participant, so that they are emotionally responding to them as a whole. This would also require for the responses to be on a separate page from the last photo.

The removal of the last photo above the response scale might remove the singularity effect experienced in response to the last photo. The subjects would not be faced with a single sad face of a child when responding about their overall affect, they would only have the memory of how many images they had previously seen. This would remove the singularity effect of the last image and cause the subjects to respond to the group of images as a whole.

By allowing the subjects to move through the photographs as quickly as they want, we could then record how much time they spent on each page and see exactly when they begin to stop viewing each page individually and begin skipping through as a result of numbness.

Lastly, by giving larger differences in number of photos between the conditions, we would be able to achieve more pronounced effects between each condition. If psychic numbing is at its most prevalent when it comes to statistics in the thousands, then having more photos could very well increase the likelihood of that result.

This type of study has great potential to explain how people respond to sequences of photos and stories of children in crisis situations. Although this study specifically did not find the predicted effect of psychic numbing, with some minor

tweaks this study might find those phenomena. Doing that would allow non-profit organizations hoping to maximize their donations to learn from this data to show that more pictures of those in need is not necessarily the best course of action. In due time, this type of study will hopefully give the world more knowledge as to how the human brain and the emotions within it function in socially important situations.

Appendix

Ten photos used in study:

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